CLAIMS

WE CLAIM AS OUR INVENTION:

1. A dual coil induction cooking system comprising:

a first resonant circuit for inducing a current in a ferrous metal cooking vessel at a first frequency;

a second resonant circuit, wired in a parallel combination with the first resonant circuit, for inducing a current in a non-ferrous metal cooking vessel at a second frequency; and

a power source for powering the parallel combination, without changing a wiring arrangement to the parallel combination, so that one of the first and the second resonant circuits is coupled to supply power through the parallel combination to a respective one of the cooking vessels.

2. The system of claim 1, wherein the first resonant circuit further comprises a first capacitor and a first coil wired in series.

3. The system of claim 2, wherein the first resonant circuit further comprises an inductor wired in series with the first capacitor and the first coil.

4. The system of claim 1, wherein the second resonant circuit comprises a second capacitor and a second coil wired in series.

5. The system of claim 4, wherein the second resonant circuit further comprises an inductor wired in series with the second capacitor and the second coil.

6. The system of claim 1, wherein the power source is configured to operate at the first frequency and the second frequency.

7. The system of claim 1, wherein the power source is configured to operate at an intermediate frequency between the first frequency and the second frequency.

8. The system of claim 1, wherein the power source further comprises a frequency varying circuit for sequentially varying a frequency of power provided to the parallel combination.

9. The system of claim 8, wherein the frequency varying circuit is configured to vary the frequency of power provided to the parallel combination from a comparatively higher frequency to a comparatively lower frequency.

10. The system of claim 8, wherein the frequency varying circuit is configured to vary the frequency of power provided to the parallel combination from a comparatively lower frequency to a comparatively higher frequency.

11. The system of claim 1, wherein the power source further comprises a detector for identifying at least one resonant frequency of the parallel combination.

12. A dual coil induction heating system comprising:

a first circuit branch;

a second circuit branch; and

a power source, wired to the first circuit branch and the second circuit branch, for energizing at least one of the first and the second circuit branches based on a magnetic property of a load to couple power to the load.

13. The system of claim 12, wherein the magnetic property is the permeability of the load.

14. The system of claim 1, in combination with a cooking appliance.

15. A dual coil induction heating system comprising:

a first resonant circuit branch;

a second resonant circuit branch wired in a parallel circuit with the first resonant circuit branch; and

a frequency power source wired to the parallel circuit so that at least one of the first and the second resonant circuit branches resonates to induce a heating circuit in a load based on the load type.

16. The system of claim 15, wherein the load is a metallic load.

17. A dual coil induction cooking system comprising:

a first series resonant circuit comprising a first cooking coil, the first series resonant circuit tuned to resonate at a first frequency with a first load;

a second series resonant circuit comprising a second cooking coil, the second series resonant circuit wired in a parallel circuit with the first series resonant circuit and tuned to resonate at a second frequency with a second load; and

a frequency source for driving the parallel circuit.

18. A method for coupling power to a load in an induction cooking system having two cooking coil resonant circuits powered by a variable frequency power source, the method comprising:

sweeping at least one of the resonant circuits with a variable frequency power;

detecting a resonant frequency response indicative of coupling between the load and at least one of the resonant circuits; and

powering at least one of the resonant circuits at a frequency corresponding to the detected resonant frequency.

19. The method of claim 18, further comprising varying the variable frequency power from a comparatively higher frequency to a comparatively lower frequency.

20. The method of claim 18, further comprising varying the variable frequency power from a comparatively lower frequency to a comparatively higher frequency.